



State of Utah

Department of  
Natural Resources

ROBERT L. MORGAN  
*Executive Director*

Division of  
Oil, Gas & Mining

MARY ANN WRIGHT  
*Acting Division Director*

OLENE S. WALKER  
*Governor*

GAYLE F. McKEACHNIE  
*Lieutenant Governor*

January 14, 2005

Larry Garahana  
Bureau of Land Management  
Salt Lake Field Office  
2370 South 2300 West  
Salt Lake City, Utah 84119

Subject: Initial Review of Notice of Intention to Commence Large Mining Operations, Northern Stone Supply, Inc., Turquoise Stone Quarry, M/003/020, Box Elder County, Utah

Dear Mr. Garahana:

The Division has completed our review of Northern Stone Supply's draft Notice of Intention to Commence Large Mining Operations for the Turquoise Stone Quarry, located in Box Elder County, Utah, which was received December 13, 2005. The Division has assigned permit number M/003/020 to this project. After reviewing the information, the Division has determined that the plan is incomplete. The attached comments will need to be addressed before tentative approval may be granted.

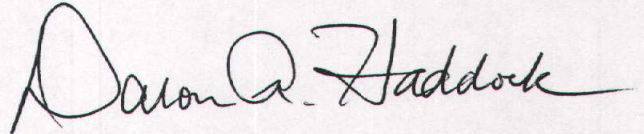
Since your Agency is acting as lead for this joint project, we are supplying you with our comments for you to incorporate into your review letter. This will allow the operator to make just one response to address both agencies comments. We will also forward a copy directly to the operator. We would suggest that you ask the operator to respond to the review with redline/strikeout text, so that we can see where the changes were made. This will expedite the review of the new submittal. Our comments are listed below under the applicable Utah Minerals Rule heading. We ask that you include the Rule heading with any comments that are specific to DOGM rules (BLM is not asking for the same information such as soils data). **After the notice is determined technically complete and we are prepared to issue final approval, we will ask the operator for two clean copies of the complete and corrected plan. Upon final approval of the permit, we will return one copy stamped "approved" for his records.**



Larry Garahana  
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Initial Review  
Turquoise Stone Quarry - M/003/020  
January 18, 2005

The Division will suspend further review of the Turquoise Stone Quarry Notice of Intention until a response to this review is received. If you have any questions in this regard please contact me, or Lynn Kunzler, Minerals Staff. It may be beneficial to arrange a meeting with the operator after he has received your review. Thank you for your willingness to act as lead agency for this project.

Sincerely,

A handwritten signature in black ink that reads "Daron R. Haddock". The signature is fluid and cursive, with the first name "Daron" being more prominent than the last name "Haddock".

Daron R. Haddock  
Permit Supervisor  
Minerals Regulatory Program

DRH:lk:jb  
Attachment: Review  
cc: Gary Mullard, Northern Stone Supply w/attachment



# INITIAL REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

Northern Stone Supply, Inc.  
Turquoise Stone Quarry

M/003/020  
January 18, 2005

## R647-4-105 - Maps, Drawings & Photographs

### **105.1 Topographic base map, boundaries, pre-act disturbance.**

The Division provided a map showing the pre-act disturbances. While it is apparent that this plan will re-affect a portion of the pre-act disturbed areas, the other areas must be delineated on the plan maps. Otherwise the operator may be responsible for reclamation of these areas.

### **105.2 Surface facilities map**

Please make sure each feature (road, quarry area, dump, etc) is uniquely identified on the maps.

Figure 3 does not identify the two existing waste rock dumps as discussed on page 10 of the notice.

A reclamation treatments map should be included in the plan showing areas to receive various reclamation treatments shaded, cross-hatched or color coded to identify which treatments will be applied. This map should be in a scale of a minimum of 1"=200' for acreage and surety calculations.

A surface contour map of the same scale should be included.

### **105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)**

Please provide typical cross sections of all quarry areas, including estimated pre-mine topography, mined out topography and proposed reclamation topography.

## R647-4-106 - Operation Plan

### **106.3 Estimated acreages disturbed, reclaimed, annually.**

The table on page 8 does not include all the 18.21 acres of previously disturbed lands that were identified by the Division and BLM during our October, 2003 site inspection. Table 2-3 on page 12 shows proposed additional acreage to be disturbed. When comparing this data with the map (figure 5), the acreage figures appear to be very low (i.e. the new disturbance by Quarry #3 appears to involve the entire 1.19 acres of new quarry identified in the table - leaving nothing for the new quarry areas by Quarry #1 or #2). Please identify on the map the acreage for each area.



**106.5 Existing soil types, location, amount**

Soils information was not included with this plan. However, soil survey information was provided with the 1992 submittal. This data needs to be included in this plan as well.

**106.6 Plan for protecting & redepositing soils**

Please include in the plan how the soil resources will be replaced during final closure. Also include in the surety estimate a line item for this activity.

**106.7 Existing vegetation - species and amount**

As with the soils data (see 106.5), vegetation data was not included in this plan. Data from the previous vegetation survey, including species composition and ground cover, need to be included in this plan.

**106.8 Depth to groundwater, extent of overburden, geology**

Please provide the depth to ground water at the site (this data could be obtained from the well). Please provide a general description of the Geology of the area.

**R647-4-107 - Operation Practices**

**107.1 Public safety & welfare**

**Posting warning signs**

Warning signs should be placed at the lower entrance, warning the public of the mining activities taking place at the site. If blasting is taking place at the site, a blasting protocol should also be posted at the quarry entrance.

**107.5 Suitable soils removed & stored**

The plan states that soil will be used in the area of the crusher relocation for leveling purposes. Because of the limited amount of soil, the soil should be stockpiled and used for reclamation. It should not be used for construction purposes.

**R647-4-109 - Impact Assessment**

**109.2 Impacts to threatened & endangered wildlife/habitat**

Information regarding T & E Species and wildlife habitat was not included with this plan. As with the soils and vegetation data, this was provided in previous submittals and needs to be incorporated in this plan.

**R647-4-110 - Reclamation Plan**

**110.1 Current & post mining land use**

Current (pre-mining) land use of the area is primarily grazing and wildlife habitat. This will be restored on public lands. Any mineral exploration activity will require permitting and reclamation (it cannot be approved as a post mining land use). The operator has proposed an alternative post mining land use for the private lands which includes a public conservation area and public access to the east side of the raft river mountains. Before the Division can approve this alternative use, the operator will need to provide evidence that all necessary permits, easements and public access have been obtained, and



demonstrate that the structures and features are needed for the alternative use. At the present time, the only structures/features that the Division can allow to remain (thus not requiring reclamation plans and bonding for) are the existing residence (cabin), the historic loadout/crusher on the west side of the canyon, and the main access road that goes past the cabin then switches back just above the upper gate to access rock canyon above the current active area. Fencing of the private lands for post mining land use is acceptable. Current fencing on public lands will need to be removed. All other buildings, structures, and roads will need to be reclaimed.

**110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed**

The plan states that selective blasting or other methods will be used to stabilize quarry highwalls after mining. Please describe in the plan how the selective blasting will accomplish this stabilization. Also describe the other methods that might be used for highwall stability.

**110.3 Description of facilities to be left (post mining use)**

Please refer to comments under R647-4-110.1.

**110.5 Revegetation planting program**

When broadcast seeding, best results occur when seeding is done in late fall, immediately after seedbed preparation activities (i.e. growth medium replacement, ripping, etc.), before the soil crusts. These activities should be planned for late fall (last 2-3 weeks of October).

The proposed seed mix for final reclamation is acceptable to DOGM. However, what will be used for interim stabilization on growth medium stockpiles, road cuts/fill areas, etc.?

The proposed weed control program is acceptable. However, please include DOGM to receive a copy of the annual report.

**R647-4-111 - Reclamation Practices**

**111.1 Public safety & welfare**

**1.14 Posting warning signs**

See comments under R647-4-107.1.

**1.15 Constructing berms/fences above highwalls**

If the quarry highwalls are to be left after mining ceases, signs, berms or fences should be constructed to warn the public of these hazards. If highwall areas are left steeper than 1:1 (45 degrees), then a variance must be requested and approved. Refer to R647-4-112 for requirements for a variance.

**111.5 Land capable of post mining land use**

The plan states that no growth medium will be placed on recontoured areas. A soil analysis will need to be performed to ascertain whether the material that will be left on



the surface will support vegetation, and what soil amendments (i.e. compost) will be needed, if any.

The plan states that topsoil will be stockpiled but does not include any plans for application of this resource. Where will this material be used if it is not placed over reclaimed areas?

**111.6 All slopes regraded to stable configuration**

Section 3F states that waste dumps will remain at their operational slope of about 1.7:1 to more closely blend with the surrounding topography. Section 3C states that the surrounding topography consists of slopes of approximately 2:1 slopes. A review of a quadrangle map of the area indicates that in areas where the dumps are proposed the surfaces is between 3.5:1 to 4:1. Waste dump slopes will be required to be regraded to a minimum of 3:1 to insure long-term stability. Please include the cost of resloping and revegetation of these features in the surety.

**111.7 Highwalls stabilized at 45 degrees or less**

The plan states that slope stability analyses were not conducted on the quarry walls since the walls will be stabilized as discussed in Section 3M. Please include in the plan how the faces will be stabilized. Section 3M discusses concurrent reclamation and does not mention stabilization of the highwalls. Please include the cost of highwall stabilization in the surety.

**111.8 All roads & pads reclaimed**

The plan states that flat areas will be scarified to depths between 6 and 12 inches. Compacted areas will need to be ripped to a depth of a minimum of 24 inches to insure removal of compaction and revegetation success.

Section 3G states that if significant grading is needed, the regraded areas will not be subsequently ripped prior to seeding. Please note that all areas, including regraded areas, will need to be ripped prior to seeding.

Most, if not all roads in the project area were constructed for mining related activities, and are continuing to be used for these activities. Unless there are legitimate needs for the roads to meet the requirements of the post mining land use, reclamation of the roads will be required. At the present time, it appears that the only road that has a legitimate post mining land use to access the residence area and public lands above the quarry, is the main road that goes through the site, making a switchback above the upper gate and then drops off the ridge into rock canyon.

**R647-4-112 - Variance**

Variances will need to be approved for all facilities, structures, roads, etc. that will not be reclaimed. For each variance, the operator will need to provide a variance request, which includes the following information:

1. The rule for which a variance is requested;
2. A description of the variance requested and the area that would be affected by the variance;



3. Justification for the variance (why it is needed);
4. Alternative methods or measures to be utilized that demonstrates the proposal will be consistent with the requirements of the Utah Mined Land Reclamation Act.

Note, the Division can only consider a request for a variance from Rule R647-4-107, 108, or 111.

**R647-4-113 - Surety**

The surety indicates that a 16H grader will be used to scarify road areas before seeding. Ripping to remove compaction is required, a 16H grader is capable of scarifying these areas but is not capable of ripping to a depth of 2 feet as required. Use of a dozer to rip these areas is recommended.

The plan states that all water lines on the site will be removed at closure, a cost for this removal is not included in the surety.

The surety does not reflect the cost of removal of building demolition debris.

Rental rates for a cat 385 hydraulic excavator and an 11,000 ft-lb hydraulic impact hammer should be included in the rental rate table.

Mobilization is shown for two pieces of equipment and the surety indicates three will be used at the site. A 325L Excavator, a 16H Grader and a 385 Excavator w/hydraulic hammer. A dozer will be needed to deep rip compacted areas and recontour waste dumps. This should also be included in the mob-demob costs.

The surety should reflect the cost of removal of the equipment located at the crusher and screening areas.

The plan states that quarry faces will be stabilized through selective blasting or other methods to mitigate safety hazards. The surety does not contain any line items that would indicate that this portion of the plan has been included in the surety. Please include in the plan what will be done to stabilize the faces and include the estimated cost of this activity in the surety.

The plan indicates that Quarry 3 and portions of Quarry 2 will be redisturbed during this mining campaign. Once these quarries have been disturbed by the present mining plan, reclamation of these areas needs to be included in the surety estimate. Also please include the reclamation plans for these areas in the text of the plan.

Please note, the final surety will need to be a joint surety naming both the BLM and the State of Utah, Division of Oil, Gas, and Mining as benefactors.